FIRM-SPECIFIC FACTORS INFLUENCING THE SELECTION OF ACCOUNTING OPTIONS PROVIDED BY THE IFRS: EMPIRICAL EVIDENCE FROM SPANISH MARKET

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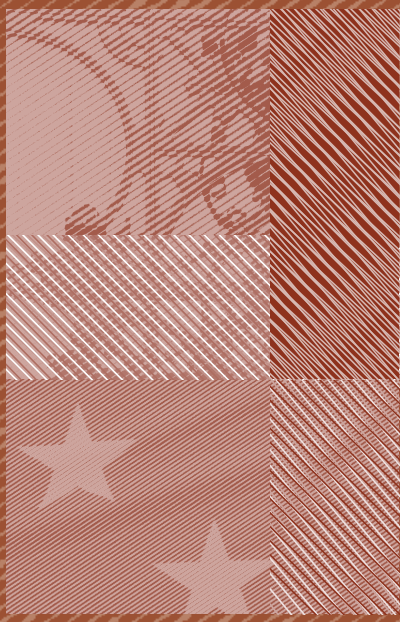

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Abstract

It is generally accepted that International Financial Reporting Standards (IFRS) promote a "true and fair" presentation of financial statements. The improvement of the quality of financial reporting helps investors, bankers and regulators make better decisions. Spanish GAAP, on the other hand, are based on a "prudent" approach for asset and liability recognition and valuation, with the goal of protecting stakeholders. Adjustments introduced as a consequence of IFRS adoption may result in (i) the recognition (or derecognition) of assets and liabilities for the first time (i.e. derivative financial assets and liabilities) and (ii) the application of accounting criteria that differs from those recognised under local GAAP (i.e. cost vs. revaluation model).

The main objective of this study is to examine the financial statements of the firms listed on the Spanish Continuous Stock Market that have been using IFRS since 2005 to determine the accounting policy options they apply under IFRS and, most importantly, to provide evidence of the factors driving these choices. Since there are significant differences in reporting quality between countries as a consequence of different accounting regimes and institutional frameworks, mandatory IFRS adoption provides an opportunity to assess the economic consequences of these differences. The main finding of this paper is that companies apply the most conservative criteria to reduce the number of discrepancies between the two standards, particularly in regards to presentation and measurement practices. Nevertheless, the deviation from Spanish GAAP has a significant impact on reported equity and net income. Firms in Consumer services, Consumer goods, Oil and Gas, and Basic Materials, Manufacturing and Construction industries experience the largest adjustments. Additionally, we find that firm-specific factors such as industry, size, auditor's opinion and capital structure influence the choice of accounting policy used to prepare financial statements. The findings reported in this paper provide a basis for debate about the quality of financial disclosure and reporting regulation and their impact across countries.

JEL classification: M41, M48.

Keywords: International Financial Reporting Standards; Mandatory Disclosure Level; Fair-value Accounting.

1 Introduction

Research on international accounting provides evidence on the economic effects that the quality of financial reporting has had on the workings of financial markets, for example on the volume of international capital flows [Young and Guenther (2003)] and the cost of equity capital for firms in these markets [Leuz and Verrecchia (2000), Cuijpers and Buijink (2005), Daske (2006)]. Financial statements supply valuable information to agents that make decisions based mainly on public financial information, which is the basic link between investors and firms that access capital markets.

Consistent with the efforts provided by the International Accounting Standards Board (IASB) and other international institutions, a large number of countries have adopted IFRS as their basis for financial statement accounting. In order to guarantee the high degree of transparency and comparability of financial information, which contributes to the efficiency of the capital markets, on July 2002 the European Commission (EC) introduced the requirement that all listed European Union (EU) companies report in accordance with IFRS endorsed accounting practices for fiscal years starting on or after 1 January 2005. This decision implies an increasing international convergence of accounting standards, which is the final goal of the international process of harmonization of accounting and financial reporting standards.

The adoption of IFRS presents fundamental changes for companies involved and for users of financial statements due to the existing differences between domestic standards (local GAAP) and IFRS. However, despite of the relevance of this event, the empirical evidence about the material effects of this change across countries is scarce. This article examines the annual reports of Spanish listed groups that adopt the IFRS in 2005 in order to quantify the impact of such adoption on consolidated financial statements and to identify the factors or characteristics of firms that influence their choice of reporting policies. The main hypothesis to be tested in the paper is that managerial decisions regarding the choice of reporting policies are taken with the objective of improving reported financial performance. Those reporting choices improve financial ratios, which in turn influence decisions taken by agents.

More particularly, the main research questions we investigate are as follows:

1) Has the implementation of IFRS had a significant impact on firms´ reported equity and net income? Which are the reporting options offered by IFRS that are preferred by firms when preparing their financial statements?

2) What are the characteristics of firms that help to explain the observed choices of reporting alternatives and that, at the same time, determine the impact on their financial statements?

The discussion of the research focuses on the effects of mandatory IFRS adoption on Spanish corporate groups. From 1 January 2005, groups listed on the EU capital markets must apply IFRS to prepare their consolidated financial statements, in accordance with the scope of the Regulation (EC) No. 1606/2002 of the European Parliament and Council of 19 July 2002. Previous literature provides evidence about voluntary IFRS adoption [i.e. Dumontier and Raffournier (1998), Murphy (1999), El-Gazzar *et al*. (1999), Street and Bryant (2000), García and Zorio (2002), Glaum and Street (2003), Cuijpers and Buijink (2005), Francis *et al.* (2008)] or considers partial samples of the Spanish Market [Callao *et al*. (2007)]. Overall, evidence suggests that the impact of IFRS adoption is associated with factors that characterize the country institutional environment (i.e. country law system and enforcement regime).

In contrast to prior studies analyzing the effects of the earlier application of IFRS, we focus on the mandatory adoption effects in Spain, characterized as a code-law country with almost non voluntary adopters[1]. As a consequence, the stakeholder model predominates at the company level and accounting standards have a strong impact on corporate taxation, since they are the basis for the calculation of corporate income taxes. Opposite to accounting standards developed in code-law systems, IFRS are shareholder oriented and not affected by tax reporting considerations. Additionally, IFRS promote the "true and fair" value criteria for presentation of financial statements (versus the "prudent" approach pursued by the Spanish accounting standards) and provide multiple options that affect the presentation, recognition, and measurement criteria for the preparation of financial statements. Adjustments introduced as a consequence of the movement from Spanish GAAP to IFRS can be classified in two groups: i) those resulting from the recognition (or derecognition) of some assets and liabilities that are required to be reported for the first-time by IFRS (for example IAS 39 requires recognition of all derivative financial assets and liabilities that were not recognized under previous local GAAP; conversely, IAS 38 does not permit recognizing research expenditures or start-up costs that were allowed under local GAAP); and ii) those relating to the choice of multiple alternatives under IFRS that differ from those previously recognised under local GAAP (for example IAS 16, IAS 38 and IAS 40 permit the cost / revaluation models to measure certain categories of assets subsequent to initial recognition, while local GAAP just allows the cost model). A direct comparison between Spanish GAAP and IFRS allows us to evaluate the differences between net income and equity measures obtained under the IFRS approach and under Spanish GAAP[2]. The sample of 88 firms used in the study includes corporate groups that were listed in the Spanish Continuous Stock Market in January 2005, excluding financial services companies and insurance companies. Logistic regression models and Akaike's Information Criterion (AIC) are used to test the hypotheses derived from previous research questions.

The overall findings of our research suggest that companies adopt the most conservative criteria to determine net income and equity. More specifically, with respect to presentation and measurement practices, companies limit the number of changes they introduce related to the Spanish GAAP. For instance, subsequent to initial recognition of property, plant and equipment and intangible assets, 95% and 98% of the groups, respectively, apply the cost model versus the revaluation model. Based on the analysis of the main adjustments on equity and net income, we find that the differences resulting from the adoption of IFRS are statistically significant. For the full sample, the results show a decrease on reported equity of 1.91% and an increase on reported net income of 4.6%. Differences between industries are also significant; firms in Consumer services, Consumer goods, Oil and Gas, and Basic material, Manufacturing and Construction, industries show the highest differences in reported net income and equity compared with those reported under conventional accounting practices. These results are consistent with findings in Callao et al. (2007) and Hung and Subramayam (2007), who highlight the significant impact of IFRS on the figures reported in financial statements. In addition, we find that certain characteristics of the firms, such as industry, size, auditor's opinion and capital structure, play an important role in explaining the probability to adopt the optional accounting criteria provided by the IFRS to prepare the financial statements.

A major understanding of the impact of IFRS on first-time adopters and the influence of firm characteristics on the option election, could assist the international organizations such as the IASB or the Financial Accounting Standards Board (FASB) to support the projects they are carrying out jointly,

1. We find that just five multinationals (Volkswagen Aktiengesellschaft, Arcelor S.A., Bayer Group, European Aeronautic Defence and Space Company N.V. and Amadeus Global Travel Distribution S.A.) were early adopters.

2. We categorize an specific accounting criteria as "conservative" when this is considered simultaneously under IFRS and local GAAP and it is presented by the firm to prepare the financial statements in compliance with IFRS.

according to their agenda 2006-2008[3], and other interested countries that are evaluating the acceptance of IFRS in a short-term period.

The remainder of this paper is organized as follows. In Section 2, the relevant literature is reviewed in developing the research's testable hypothesis. Section 3 describes the sample selection and data and outlines the empirical methods used in this article. In Section 4, we report the statistical results. Section 5 summarizes and concludes the study.

3. After the Norwalk Agreement in September 2002 and their meetings in April and October 2005, the IASB and the FASB reaffirmed their commitment to the convergence of their existing financial reporting standards (IFRS and US GAAP, respectively) and to coordinate their future work programmes to ensure the compatibility of the accounting standards is maintained.
The IASB Work Plan – Projected timetable at 31 October 2008 can be downloaded from the IASB website at http://www.iasb.org/NR/rdonlyres/A7DE8BF3-DD0A-4578-AD3E-EF174E3A4939/0/IASBWorkPlan31October2008.pdf.

2 Prior Research and Hypotheses Associated with Research Questions

2.1 Effects of IFRS Adoption: Financial Reporting Consequences

International accounting literature that precedes the first empirical studies on the effects of IFRS adoption had focused its attention on two different issues: a) the analysis of the main difficulties and opportunities that IFRS adopters find regarding the transition to IFRS [Haller and Eierle (2004), Sucher and Jindrichovska (2004), Vellam (2004), Delvaille *et al.* (2005), Hoogendoorn (2006)]; b) the study of the determinants and consequences of the voluntary adoption of non-local GAAP (Dumontier and Raffournier (1998), Murphy (1999), El-Gazzar *et al.* (1999), Street and Bryant (2000), García and Zorio (2002), Glaum and Street (2003), Cuijpers and Buijink (2005), Francis *et al.* (2008)].

Based on the *GAAP Convergence 2002 Survey* directed by BDO *et al.* (2003), Street and Larson (2004) and Larson and Street (2004) find that the principal barriers to convergence in EU countries are the complex nature of particular IFRS (including financial instruments), the limited experience with some transactions (e.g. employee benefits and retirement benefit plans) and the tax-orientation of many national accounting systems. The different approaches between countries adopting IFRS (voluntary/mandatory adopters) provide the framework of our study. In a later stage, we examine the effects of the mandatory adoption of IFRS on the Spanish groups.

Despite of its importance, we find little empirical evidence quantifying the impact of IFRS on financial statements and examining the accounting policies adopted by different companies, from different industries, that determine the magnitude of the impact and its significance [Jermakowicz (2004), Aisbitt (2006), Callao *et al.* (2007), Hung and Subramayam (2007)]. Jermakowicz (2004) examines the adoption of IFRS by BEL-20 firms in Belgium and provides insights into IFRS implementation problems bases on a survey sent to these companies. She finds a significant impact on the reported equity as well as net income of the first-time IFRS adopters in 2003 (3) and predicts that the biggest impact of IFRS will be around the following areas: a) recognition of deferred taxes, mergers and acquisitions and financial instruments (especially for financial institutions); and b) valuation of assets and retirement benefits. Aisbitt (2006) analyzes the effect of the transition to IFRS in equity on UK´s FTSE 100 index at 1 January 2005. Her results indicate that the change to the final net assets figure is not significant. However, the effect of particular standards on individual line items in the balance sheet requires careful attention. Callao *et al.* (2007) evaluate the effects of the IFRS adoption on the comparability and relevance of financial reporting. They focus on Spanish listed groups that comprise the IBEX-35 at 30 June 2005. The results of the study show that the adjustments that companies make have a significant impact on the financial statements and the book-to-market ratio varies significantly depending on the accounting standards they apply. Hung and Subramayam (2007) investigate the financial statement effects of adopting IFRS in Germany during the period 1998-2002, and they find that book value of equity and total assets, as well as variability of book value and income, are significantly higher under IFRS than under German GAAP.

The current research extends the work of previous literature by examining the effects of IFRS on Spanish groups. The first hypothesis we include in the first stage of the study tests the significance of the impact of IFRS on book value of equity and net income. For this purpose, we observe the R^2 of the models and the statistical significance of both variables. In order to provide incremental information beyond the aggregate equity and net income impact, we disaggregate the balance sheet into the main items: non current assets, current assets, non current liabilities, and current liabilities; and the income statement into the following steps: sales, gross operating income, net operating income, income from continuing operations, income before taxes and income taxes. It should be remarked that adjustments

required to move from Spanish GAAP to IFRS at the time of first-time adoption should be recognized directly in equity and net income and our approach allows us to explain how the transition from previous GAAP to IFRS affects the entity´s reported financial position.

***H_{01}*:** The impact of IFRS adoption on 2004 consolidated financial statements (in particular, equity and net income attributable to common shareholders) of Spanish listed groups is statistically significant.

2.2 Influence of Corporate Characteristics on the Accounting Criteria Election

A large number of studies have addressed the influence of corporate characteristics on financial reporting [Cooke (1989a, 1989b), Wallace *et al.* (1994), Giner (1997)]. In the last ten years, these articles focus their attention on a set of firm-specific factors for their association with the voluntary adoption of IFRS [Dumontier and Raffournier (1998), Murphy (1999), El-Gazzar *et al.* (1999), Street and Bryant (2000), García and Zorio (2002), Glaum and Street (2003), Cuijpers and Buijink (2005), Francis *et al.* (2008)]. The authors of these researches coincide with the majority of the factors used, including listing status, industry, size, ownership structure, financial leverage, profitability, and type of auditor; however they reach different conclusions (Table 1 summarizes the results of these studies). In a second stage of the study we analyze the influence of the Spanish groups´ corporate characteristics on the election of the accounting policies adopted to prepare their financial statements according to IFRS. We consider that companies may have incentives to influence positively their results. The second hypothesis we include examines the probability to adopt a certain IFRS criteria depending on the firm-specific factors.

Table 1. Determinants of Companies´ Compliance with IAS/IFRS

	Dumontier & Raffournier (1998)	**Murphy (1999)**	**El-Gazzar *et al.* (1999)**	**Street & Bryant (2000)**	**García & Zorio (2002)**	**Glaum & Street (2003)**	**Cuijpers & Buijink (2005)**
	Switzerland 1994	Switzerland 1995	IASC List[a] (most recent 3	IASC List[a] 1998	IASC List[a] 1997	Germany 2000	EU 1999
Corporate Characteristics:							
Listing status	√	√	√	√	no	√	√
International activity	√	√	√		√	no	√
Size	√	no		no	√	no	no
Capital structure	√					no	no
Financial leverage	no	no	√		no		
Capital intensity	no				no		
Return on equity (RoE)	no			no	no	no	
Type of auditor/Audit opinion	√	no		√[b]	no	√	
Market capitalization		no					
EU membership			√				
Industry				no		no	

[a] IASC Secretariat's List of "Companies disclosing that their financial statements conform with International Accounting Standards" provided by the IASC.
[b] Association between compliance and/or disclosure level, and the manner in which the audit opinion addresses: (1) the type of accounting standards used by the companies and (2) the auditing standards adhered to.

Based on the discussion of prior literature, we select five firm characteristics hypothesized as being determinants of this election. These characteristics include size, financial leverage, industry, profitability, and type of auditor. Prior research provides evidence that the company listing status may be associated with the extent of compliance with IFRS required disclosures and presentation and measurement requirements. However, this variable is not considered in the current study because, with the exception of six companies, the sample groups are exclusively listed on the Spanish Continuous Market. In this stage, firstly, we categorize all the multiple recognition and measurement accounting criteria embedded in the fourteen IAS/IFRS out of the thirty five IFRS applied to prepare 2004 financial

statements. For example, IAS 1, *Presentation of Financial Statements*, prescribes two optional methods as the basis for presentation of the statement of changes in equity, balance sheet, and the analysis of expenses, respectively. Secondly, we analyze whether corporate characteristic explain the elective accounting choices. The direction of association does not determine the impact of a specific IFRS on book value of equity and net income, thus no prediction of the association sign is made in the current study. We introduce the discussion of the variables used in the analysis.

Previous research has consistently identified company size as positively significantly associated with the accounting method and the level of disclosure. Alternative hypothesis can explain the differences across firms in their accounting criteria election and corporate disclosure: (1) *Competitive advantage*, large companies may have more resources to prepare financial disclosure and support their implicit costs [Belkaoui and Kahl (1978), Firth (1979)]; (2) *Management advisors*, large companies are more likely to have well-qualified accounting advisors [Butters and Niland (1949)], and (3) *Political costs*, large firms may have more incentives than small firms to analyze and select those accounting criteria that minimize the impact on accounting numbers [Watts and Zimmerman (1978 and 1990)]. Consistent with Cooke (1989b) and Street and Gray (2002), the variable size is measured as Total Assets (*T_ASSETS*) in euros, Net Sales (*SALES*) in euros and Operating Income (*Op_INCOME*) in euros. The coefficient on size is expected to be associated with the accounting criteria election.

The capital structure can also influence the corporate disclosure and accounting criteria election of companies. Financial intermediaries lend money to firms based on an established contractual structure which usually includes covenants and collateral as mechanisms to control and monitor the behaviour of the borrower. Prior literature shows that accounting-based debt covenants (i.e. interest expenses/ebitda, net financial debt/ebitda) are important factors in accounting choices [Watts and Zimmerman (1990)]. Chen and Wei (1993) find that managers have incentives to select accounting methods to avoid covenants violation. Therefore, leverage increases the default risk and managers may change accounting criteria under IFRS to reduce company risk. The coefficient on *LEVERAGE* is expected to be associated with the accounting criteria choice. The variable *LEVERAGE* is defined as 1 – Equity/Total Assets.

Several studies have addressed the association between industry and extent of compliance with GAAP-required disclosures, and measurement and presentation requirements [Wallace *et al.* (1994), Giner (1997), Street and Bryant (2000), Glaum and Street (2003)]. Accounting methods are used in different ways across industries, due to regulatory issues as for financial institutions and insurance companies, and to differences in industries' opportunity sets, for example firms integrating Oil and Gas and Consumer services industries present their cash flow statements using the indirect method (option 2 under IAS 7), while firms integrating Technology and Communications industry use the direct method (option 1 under IAS 7). Wallace *et al.* (1994) establish that firms from the same industry may adopt similar disclosure practices additionally to those for companies in all industries. If industry drives corporate reporting strategy within-industries, we can expect companies following a different corporate reporting strategy as others of the same industry may be penalized by the market. Following the Spanish Stock Exchange classification, *INDUSTRY* variable is a label attached to the firms and it is coded as: (1) Banks and other financial institutions, (2) Consumer goods, (3) Basic materials, Manufacturing and Construction, (4) New Market, (5) Oil and Gas, (6) Insurance, (7) Consumer services, (8) Real Estate, and (9) Technology and Communications.

Profitability ratios and operating margins are one of the main variables followed by analysts, because they are based on companies' results and income numbers capture in a highly rate the information which becomes available during the year [Ball and Brown **(1968: 176)].** Empirical evidence supports the strong relationship between accounting performance measures and market return [Beaver

(1968), Easton and Harris (1991), Easton *et al*. (1992), Dechow (1994), Francis *et al.* (2002)]. Two competing arguments are highlighted to influence on the income numbers: (1) Based on agency theory, it could be expected that managers have incentives to adopt accounting methods increasing income numbers; (2) Based on the signalling theory, managers may use the adoption of IFRS to raise their results and give "good news" to the market. Consistent with Hung (2001), we define Return on Equity (*ROE*), as Net Income/Equity lagged one year, is used as a surrogate of performance measure.

Prior research on information disclosure and voluntary adoption of IFRS provides evidence about the association between quality of financial information and type of auditor [Dumontier and Raffournier (1998), Giner (1997), Street and Bryant (2000), Glaum and Street (2003)]. We expect that the type of auditor influences the accounting methods choice. This hypothesis is based on two complementary arguments: (1) Companies audited by the "Big Four" (PricewaterhouseCoopers, Deloitte Touche Tohmatsu, Ernst&Young, and KPMG) try to reduce their agency costs by contracting with these auditing firms; (2) Auditing firms may have incentives to maintain their reputation in the market through the high level of audit quality. Additionally, the strong international presence and the active participation in the convergence process of the "Big Four" label them in the market as experts in auditing and accounting regulation. To explore the influence of the type of auditor on the accounting criteria election, variable *BIG4* categorizes companies in Big Four/Non-Big Four (Others) audited companies.

Street and Bryant (2000) explore the association between compliance and/or disclosure level, and the manner in which the audit opinion addresses the type of accounting standards used by the companies. Also, Street and Gray (2002) argue that the type of accounting standards and noted exceptions used by the company, as stated in the auditor report, might be associated with the extent of compliance with IFRS-required disclosures and measurement presentation requirements. Based on prior literature, it could be expected to find an association between accounting criteria election and the level of compliance with IFRS-required disclosure reported in the auditor report. Therefore, we explore this association classifying the audit opinion in the following categories: (1) an unqualified opinion, (2) a qualified opinion arising from a simple deviation from the GAAP, (3) a qualified opinion based on a scope of limitation, and (4) a disclaimer.

***H_02*:** The corporate characteristic *i* influences the *j* accounting criteria election (i.e. presentation, recognition and valuation options under IFRS), used to prepare the financial statements.

3 Methodology

3.1 Sample Selection and Data Source

The population of firms initially considered for the study is the whole list of 129 corporations that are included in the Spanish Continuous Market, at 1 January 2005. In compliance with the Regulation (EC) No 1606/2002 on the application of IFRS, firms governed by the law of a Member State shall prepare their consolidated financial statements in conformity with endorsed IFRS at the European level for financial years starting on or after 1 January 2005. Following the Spanish Stock Exchange classification, we divide the sample into nine industries: (1) Banks and other financial institutions, (2) Consumer goods, (3) Basic materials, Manufacturing and Construction, (4) New Market, (5) Oil and Gas, (6) Insurance, (7) Consumer services, (8) Real Estate, and (9) Technology and Communications. After excluding firms operating in the finance and insurance industry (20), we collect 2004 and 2005 year-end interim financial statements and 2005 annual reports for the 109 remaining companies. Interim financial information reported to the Spanish Securities and Exchange Commission in 2005 includes the first public information in accordance with IFRS and for comparative purposes are accompanied by 2004 IFRS financial statements. Financial year 2004 is used as a "bridge" from Spanish GAAP to IFRS and, therefore, it is a unique piece to quantify the impact on financial statements and study the effects of the transition to IFRS. Data for accounting criteria elections have been collected from 2005 annual reports.

Following a review of the disclosure included in 2005 financial statements and the associated audit opinion, we assert that groups included in the sample are first-time adopters. Five groups were excluded because they adopted IFRS prior to 2005. We also exclude from the sample delisted groups in 2005, mergers due to absorption during 2005, and companies that presented consolidated financial statements according to accounting principles different to those of the Spanish GAAP or IFRS. The final sample is comprised of 88 groups (see Table 2).

Table 2. Sample Selection

Panel A: Sample Description	*2005*
Spanish Stock Exchange groups	129
IFRS early adopters	(5)
Non-consolidated financial statements groups	(5)
Banks and other financial institutions and insurance companies	(20)
Unavailable Data*	(11)
TOTAL GROUPS:	88
Panel B: Industry Classification	
(2) Consumer goods	21
(3) Basic materials, Manufacturing and Construction	23
(4) New Market	10
(5) Oil and Gas	9
(7) Consumer services	14
(8) Real Estate	9
(9) Technology and Communication	2
TOTAL GROUPS:	88

* 1) Delisted Groups in 2005; 2) Mergers by absorption in 2005; 3) Non-Local GAAP/IFRS; and 4) Unavailable data.

3.2 Empirical Models

3.2.1 IMPACT ON FINANCIAL STATEMENTS

In order to test $H_0 1$, we estimate two regression models. Model [1] is used to estimate the impact of IFRS on equity at 31 December 2004 and model [2] is used to measure the impact of IFRS on net income at the same date. Both of them test overall group differences and differences between industries:

$$E_{IFRS} = \beta_0 + \beta_1 E_{SpanishGAAP} + \varepsilon \qquad [1]$$

Where:

E_{IFRS}: equity of the parent company (E) under IFRS, at 31 December 2004;

$E_{SpanishGAAP}$: E under Spanish GAAP, at 31 December 2004;

ε: error term.

$$NI_{IFRS} = \beta_0 + \beta_1 NI_{SpanishGAAP} + \varepsilon \quad [2]$$

Where:

NI_{IFRS}: net income (NI) under IFRS at 31 December 2004;

$NI_{SpanishGAAP}$: NI under Spanish GAAP at 31 December 2004;

ε: error term.

The models in equations [1] and [2] are estimated using robust statistics that controls for outliers effects. Robust methods attempt to minimize the effects of outliers as well as erroneous assumptions on the shape of the distribution [Huber (1981)]. Additionally, bootstrap procedure is used to obtain improved finite-sample critical values for test statistics. This alternative method appears to give reasonable confidence when the sample of the study is not large[4]. The bootstrap, introduced by Bradley Efron in 1979 and more recently developed by Efron and Tibshirani (1993), draws random resamples with replacement from the original observed data and uses the bootstrap distribution of the resampled statistics to estimate the variation in a statistic based on the original data. 1,000 bootstrap replications are generated during the process.

The regression model's R^2 measures the strength of the association between the accounting variables under both set of accounting standards. A significant non zero intercept indicates that there are other factors that are not included in the independent variable ($E_{SpanishGAAP}$ *and* $NI_{SpanishGAAP}$*, respectively).* An estimated coefficient different from 1 in models [1] and [2] indicates that there are differences between accounting numbers reported under IFRS and Spanish GAAP at year end 2004.

Given our interest in measuring impact of the IFRS adoption on financial statements and determining main variables that explain it, stepwise regressions are used to determine which accounting variables are associated with the impact. The regression equations [3] and [4] are specified as:

$$E = \beta_0 + \beta_1 NC\_ASSETS + \beta_2 C\_ASSETS + \beta_3 NC\_LIABILITES + \beta_4 C\_LIABILITES + \beta_5 M\_INTEREST + \varepsilon \quad [3]$$

where:

E: $(E_1 - E_0) / ((E_0 + E_1)/2)$

E_1: equity of the parent company (E) under IFRS at 31 December 2004;

E_0: E under Spanish GAAP at 31 December 2004.

NC_ASSETS: $(NC\_A_1 - NC\_A_0) / ((NC\_A_0 + NC\_A_1)/2)$

4. Cañibano and Mora (2000) apply a bootstrapping procedure to test the significance of changes in the C index as a way to evaluate *de facto* accounting harmonization.

NC_A_1: non-current assets (NC_A) under IFRS at 31 December 2004;

NC_A_0: NC_A under Spanish GAAP at 31 December 2004.

C_ASSETS: $(C\_A_1 - C\_A_0) / ((C\_A_0 + C\_A_1)/2)$

C_A_1: current assets (C_A) under IFRS at 31 December 2004;

C_A_0: C_A under Spanish GAAP at 31 December 2004.

NC_LIABILITIES: $(NC\_L_1 - NC\_L_0) / ((NC\_L_0 + NC\_L_1)/2)$

NC_L_1: non-current liabilities (NC_L) under IFRS at 31 December 2004;

NC_L_0: NC_L under Spanish GAAP at 31 December 2004.

C_LIABILITIES: $(C\_L_1 - C\_L_0) / ((C\_L_0 + C\_L_1)/2)$

C_L_1: current liabilities (C_L) under IFRS at 31 December 2004;

C_L_0: C_L under Spanish GAAP at 31 December 2004.

M_INTERESTS: $(M\_I_1 - M\_I_0) / ((M\_I_0 + M\_I_1)/2)$

M_I_1: minority interests (M_I) under IFRS at 31 December 2004;

M_I_0: M_I under Spanish GAAP at 31 December 2004.

ε: error term.

$$NI = \beta_0 + \beta_1 NET\_SALES + \beta_2 I\_G.OpINCOME + \beta_3 I\_NOpINCOME + \beta_4 I\_ContOPERATIONS + \beta_5 I\_bTAXES + \beta_6 TAXES + \varepsilon \quad [4]$$

where:

NI: $(NI_1 - NI_0) / ((NI_0 + NI_1)/2)$

NI_1: net income (NI) under IFRS at 31 December 2004;

NI_0: NI under Spanish GAAP at 31 December 2004.

NET_SALES: $(NS_1 - NS_0) + ((NS_0 + NS_1)/2)$

NS_1: net sales (NS) under IFRS at 31 December 2004;

NS_0: NS under Spanish GAAP at 31 December 2004.

I_G.OpINCOME: $(GOpI_1 - GOpI_0) / ((GOpI_0 + GOpI_1))/2)$

$GOpI_1$: items determining gross operating income (GOpI) under IFRS at 31 December 2004;

$GOpI_0$: GOpI under Spanish GAAP at 31 December 2004.

I_N.OpINCOME: $(NOpI_1 - NOpI_0) / ((NOpI_0 + NOpI_1))/2)$

$NOpI_1$: items determining net operating income (NOpI) under IFRS at 31 December 2004;

$NOpI_0$: NOpI under Spanish GAAP at 31 December 2004.

I_ContOPERATIONS: $(IContOP_1 - IContOP_0) / ((IContOP_0 + IContOP_1)/2)$

$IContOP_1$: items determining income from continuing operations (IContOP) under IFRS at 31 December 2004;

$IContOP_0$: IContOP under Spanish GAAP at 31 December 2004.

I_bTAXES: $(IbT_1 - IbT_0) / ((IbT_0 + IbT_1)/2)$

IbT_1: items determining income before taxes (IbT) under IFRS at 31 December 2004, and includes net income from discontinued operations;

IbT_0: IbT under Spanish GAAP at 31 December 2004, and includes extraordinary earnings for the period.

TAXES: $(T_1 - T_0) / ((T_0 + T_1)/2)$

T_1: income taxes (T) under IFRS at 31 December 2004;

T_0: T under Spanish GAAP at 31 December 2004.

ε: error term.

A positive (negative) and significant t-statistic would indicate that the independent variables included in models [3] and [4] have explanatory power to determine the impact on equity and net income, respectively. Variations on these variables would be explained by differences between Spanish GAAP and IFRS and alternative accounting criteria included in IFRS.

Table 3, in section 3.2.2.1, summarizes main alternative options included in IFRS that we consider to examine the research question 2). Differences between Spanish GAAP and IFRS affect to recognition and measurement of numerous items in the balance sheet and income statement, including property, plant and equipment (IAS 16), intangible assets (IAS 38) and investment property (IAS 40), non-current assets held for sale and discontinued operations (IFRS 5), inventories (IAS 2), financial instruments (IAS 32 and IAS 39), leases (IAS 17), government grants (IAS 20), provisions (IAS 37), income taxes (IAS 12), borrowing costs (IAS 23), changes in foreign exchange rates (IAS 21), employee benefits (IAS 19) and shared-based payment (IFRS 2), and business combinations (IFRS 3). Companies do not disclose the quantitative adjustments of each accounting choice on financial statement variables. Therefore, the impact of individual IFRS options on financial statements can not be estimated and this is a limitation of the research related to the IFRS adoption studies. To have a better understanding of the companies' behaviour during the adoption process and its impact on financial statements, we determine

the influence that corporate characteristics have on IFRS accounting choices. Section 3.2.2 introduces the empirical method we use to examine this relationship.

3.2.2 ACCOUNTING CRITERIA ELECTION

To test $H_0 2$ we use the multinomial logit model [5]:

$$\text{Prob}\,(IAS/IFRS_i{:}\,j)=\beta_0+\beta_1 T\_ASSETS+\beta_2 SALES+\beta_3 Op\ \ INCOME+ \beta_4 LEVERAGE+\beta_5 ROE+\beta_6 BIG4+\beta_7 AUDITOR\_OP+\varepsilon \quad [5]$$

Where:

IAS/IFRS$_i$: *j*th option under IAS/IFRS;

T_ASSETS: total assets in euros; dummy variable codified as:

1 if company has total assets higher than the median,

0 if otherwise.

SALES: net total sales in euros.

Op_INCOME: operating income in euros.

LEVERAGE: financial leverage ratio, defined as: 1 – Equity/Total Assets.

ROE: return on equity ratio, defined as Net Income/Equity lagged one year.

*BIG*4: type of auditor; dummy variable codified as:

1 Big Four company, 0 others.

AUDITOR_OP: auditor's opinion; codified as:

1 unqualified opinion,

2 qualified opinion arising from a deviation from IFRS,

3 qualified opinion based on a scope of limitation (i.e. companies using the exemption that provides the IFRS 1 from the full retrospective application of IAS 32 and 39),

4 disclaimer.

ε: error term.

We run stepwise regressions to determine the corporate characteristics that influence the probability to select criteria j. The election of the best model for criteria j is based on the Akaike's

Information Criterion (AIC)[5]. In terms of regression models, the traditional criteria based on maximum likelihood improves the adjustment to the dependent variable, regardless of the number of explicative variables included in the model. The AIC includes a penalty that is an increasing function of the number of estimated parameters. This penalty avoids overfitting and, as a consequence, the preferred model is finally the one with the lowest AIC value. It may be considered other alternatives or criteria regarding the complexity of the model, like the Schwarz criterion (or BIC), although the penalty for additional explicative variables is stronger than that of the AIC [see review in Burnham and Anderson (2002)].

Industry is considered as a label attached to the firms, so we use the Fisher test to find the relationships between the industry and the IFRS accounting options. We codify companies in the following sectors: (2) Consumer goods, (3) Basic materials, Manufacturing and Construction, (4) New Market, (5) Oil and Gas, (7) Consumer services, (8) Real Estate and (9) Technology and Communications.

3.2.2.1 Dependent Variables

Based on an examination of the IAS/IFRS endorsed by the EC and mandatory for fiscal year 2005 (including IFRS 1, First-time adoption of IFRS), Table 3 summarizes the main optional accounting criteria considered in this study. Each IAS/IFRS is codified as a dependent variable based on multiple criteria allowed, and an additional exception criteria is included for those circumstances in which it can not be inferred if the firm does not disclose information related to a particular option or this one is not applicable (Not disclosed/Not applicable). A complete review of the 2005 annual reports is carried out to minimize the possibility that companies would be penalized in the model for optional accounting methods that were not applicable.

[5] The AIC, defined in 1973 by Hirotsugu Akaike, is a method widely used in the statistics literature for model selection. The AIC measures the model goodness-of-fit in terms of the estimated error variance and, simultaneously, penalizes for selecting models with a large number of parameters, so the final model keeps the most significant explicative variables. The AIC is given by the expression:

$$AIC = 2k + n\left(\ln\left(2\pi \sum_{i=1}^{n} e_i^2 \Big/ n\right) + 1\right)$$

where:

e_i: error in observation i;
k: number of estimated parameters;
n: number of observations.

Table 3. Optional Accounting Methods under IAS/IFRS

IAS/IFRS $_i$ **(Dependent variables):**	
IAS 1$_a$ *Presentation of statement of changes in equity:* 1. All changes in equity; 2. Changes in equity other than those arising from transactions with equity holders acting in their capacity as equity holders	*IAS 1*$_b$ *Presentation of balance sheet:* 1. Current/non-current assets and liabilities; 2. In order of relative liquidity.
IAS 1$_c$ *Analysis of expenses:* 1. Nature; 2. Function.	*IAS 2* Methods of inventory costing: 1. Weighted Average Cost; 2. FIFO; 3. Specific identification; 4. Nd/Na; 5. Multiple criteria simultaneously.
IAS 7 *Reporting cash flows from operating activities:* 1. Direct method; 2. Indirect method.	*IAS 14* *Primary segment reporting format* 1. Business segments; 2. Geographical segments; 3. Segments are not reportable; 4. Nd/Na.
IAS *Property, plant and equipment (PP&E) measurement after recognition:* 1. Cost model; 2. Revaluation model; 3. Nd/Na; 4. Multiple criteria simultaneously.	*IAS 17* *Operating leases: Recognition of the lease payments* 1. On a straight-line basis (i.e., equal payments period over the lease term); 2. On a systematic basis; 3. Nd/Na; 4. Multiple criteria simultaneously.
IAS 19 *Recognition of actuarial gains and losses:* 1. Immediate recognition as an income/expense; 2. Corridor approach method; 3. Outside profit or loss; 4. Nd/Na.	*IAS 20*$_a$ *Presentation of grants related to Income:* 1. Grant presented as an income (either separately or under a general heading other income); 2. Grant deducted in reporting from the related expense; 3. Not received; 4. Nd/Na.
IAS 20$_b$ *Presentation of grants related to assets:* 1. By setting up the grant as deferred income; 2. By deducting the grant from the asset; 3. Not received; 4. Nd/Na.	*IAS 23* *Borrowing costs relating to qualifying assets:* 1. Expensed (benchmark treatment); 2. Capitalized (alternative treatment); 3. Nd/Na; 4. Multiple criteria simultaneously.
IAS 31 *Accounting for investments in joint ventures* 1. Proportional consolidation method; 2. Equity method; 3. Not applicable; 4. Nd/Na; 5. Multiple criteria simultaneously.	*IAS 38* *Intangible assets measurement after recognition:* 1. Cost model; 2. Revaluation model; 3. Nd/Na.

(continued on next page)

Table 3. Continued.

IAS/IFRS$_i$ **(Dependent variables):**	
IAS 39$_a$ *Recognition of purchases or sales of financial assets:* 1. Trade date; 2. Settlement date; 3. Not applicable; 4. Nd/Na. *IAS 40* *Investment property measurement after recognition:* 1. Cost model; 2. Revaluation model; 3. Nd/Na.	*IAS 39$_b$* *Recognition of financial guarantee contracts:* 1. Insurance contracts; 2. Financial instruments; 3. Not applicable; 4. Nd/Na.

IAS/IFRS$_i$ **Exceptions from other IFRS (Dependent variables):**	
IFRS 1$_a$ *Does the company apply IFRS 3 retrospectively to past business combination:* 1. Never; 2. Always; 3. Company restates business combinations that occurred between a particular date and the date of transition 4. Nd/Na. *IFRS 1$_c$* *Does the company elect to measure an item of PP&E at the date of transition to IFRS at its fair value and use that fair value at its deemed cost at that date?:* 1. Yes; 2. No; 1. Nd/Na. *IFRS 1$_e$* *Does the Company* elect to measure an item of intangible asset at the date of transition to IFRS at its fair value and use that fair value at its deemed cost at that date?: 1. *Yes;* 2. No; 3. Nd/Na. *IFRS 1$_g$* *Are the cumulative transaction differences for all foreign operations deemed to be zero at the date of transition to IFRS?:* 1. Yes; 2. No; 3. Not applicable; 4. Nd/Na.	*IFRS 1$_b$* *Does the company apply IAS 21 retrospectively to fair value adjustments and goodwill arising in business combinations that occurred before the date of transition to IFRS?* 1. Yes; 2. No; 3. Nd/Na. *IFRS 1$_d$* *Does the company elect to measure an item of investment property at the date of transition to IFRS at its fair value and use that fair value at its deemed cost at that date?:* 1. Yes; 2. No; 3. Nd/Na. *IFRS 1$_f$* *Does the company elect to recognize all cumulative actuarial gains/losses at the date of transition to IFRS, even if it uses the corridor approach for later actuarial gains/losses?:* 1. Yes; 2. No; 3. Not applicable; 4. Nd/Na.

(continued on next page)

Table3. Continued.

IAS/IFRS *i*
Exceptions from other IFRS (Dependent variables):

IFRS 1h
IAS 32 requires a company to split a compound financial instrument at inception into separate liability/equity components
…Does the company separate equity portions if the liability componet is no longer outstanding at the date of transition to IFRS?
1. Yes;
2. No;
3. Not applicable;
4. Nd/Na.

IFRS 1j
Are previously recognized financial instruments designated as a financial asset or financial liability at fair value trough profit or loss at the date or transition to IFRS?:
1. Yes;
2. No;
3. Not applicable;
4. Nd/Na.

IFRS 1l
Does the company apply IFRS 2 to liabilities arising from share-based payment transactions that were settle before the date of transition to IFRS?:
1. Yes;
2. No;
3. Not applicable;
4. Nd/Na.

IFRS 1n
Does the company apply the derecognition requirements in IAS 39 retrospectively from a date of the entity´s Choosing provieded that the information needed to apply IAS 39 to financial assets/liabilities derecognised as a result of past transactions Was obtained at the time of initially accounting for these transactions?
1. Yes;
2. No;
3. Not applicable;
4. Nd/Na.

IFRS 1i
If a subsidiary becomes a first time adopter later than its parent, does it measure in its financial statements its assets/liabilities at the carrying amounts that would be included in the parent´s consolidated financial statements?
1. Yes;
2. No;
3. Not applicable;
4. Nd/Na

IFRS 1k
Does the company apply IFRS 2 to equity instruments that were granted on or before 7 November 2002?:
1. Yes;
2. No;
3. Not applicable.
4. Nd/Na.

IFRS 1m
Does the company apply the transitional provisions of IFRS 4?:
1. Yes;
2. No;
3. Not applicable;
4. Nd/Na.

IAS/IFRS *i*
Exemption from the requirement to restate comparative information for IAS 39 and IFRS 4 (Dependent variables):

IFRS 1o
Does the company choose to present comparative information that does comply with IAS 32, IAS 39 and IFRS 4 in its first year of transition?:
1. Yes;
2. No;
3. Not applicable;
4. Nd/Na.

4 Statistical Findings

4.1 Impact on Equity and Net Income

Table 4 reports the results of estimating models [1], [2], [3] and [4]. In response to research question number 1, these models are used to estimate the impact of IFRS on financial statements at 31 December 2004 and determine the main accounting variables that explain it. The regressions (robust regressions) for the full sample and individual industries are presented simultaneously to assess the effects of the outlier's control.

Table 4. Summary of Regression Results: Impact on Financial Statements

Panel A: Impact on Equity
Model:

	Value	Bootstrap	Boots. Robust Regression	Std. Error	*t*-value	Pr(T=|t|)
(Intercept)	86187.5794	78074.2265	-2620.925	42092.5806	2.0476	0.0437*
$E_{SpanishGAAP}$	0.7599	0.7685	0.9809	0.0134	56.5663	0.0000***

Multiple R-Squared: 0.9738

Bootstrap	$Industry_2$	$Industry_3$	$Industry_4$	(Boots. Robust Reg.)
(Intercept)	-3593.867	26276.977	12211.3910	-11243.10
$E_{SpanishGAAP}$	1.075	0.8477	0.7505	0.9828

	$Industry_5$	$Industry_7$	$Industry_8$
(Intercept)	41518.9077	60441.867	-5966.0401
$E_{SpanishGAAP}$	0.8336	0.7926	0.9494

Model: $E = \beta_0 + \beta_1 NC\_ASSETS + \beta_2 C\_ASSETS + \beta_3 NC\_LIABILITIES + \beta_4 C\_LIABILITIES + \beta_5 M\_INTEREST + \varepsilon$

Stepwise Reg.	Value	Bootstrap	Std. Error	*t*-value	Pr(T=|t|)
(Intercept)	-0.1093	-0.1074	0.0279	-3.9136	0.0002***
NC_ASSETS	0.2557	0.3939	0.1096	2.3332	0.0220*

Multiple R-Squared: 0.05953

Panel B: Impact on Net Income
Model:

	Value	Bootstrap	Std. Error	*t*-value	Pr(T=|t|)
(Intercept)	-10724.976	-9617.321	6490.2936	-1.6525	0.1021
$NI_{SpanishGAAP}$	1.0557	1.046	0.0119	88.5743	0.0000***

Multiple R-Squared: 0.9932

Bootstrap	$Industry_2$	$Industry_3$	$Industry_4$
(Intercept)	-4084.166	3077.702	-1534.209
$NI_{SpanishGAAP}$	1.204	0.8914	1.009

	$Industry_5$	$Industry_7$	$Industry_8$
(Intercept	-30268.948	-7053.079	776.5742
$NI_{SpanishGA}$	1.056	0.893	0.9413

Model: $NI = \beta_0 + \beta_1 NET\_SALES + \beta_2 I\_G.OpINCOME + \beta_3 I\_N.OpINCOME + \beta_4 I\_ContOPERATIONS + \beta_5 I\_bTAXES + \beta_6 TAXES + \varepsilon$

Stepwise Reg.	Value	Bootstrap	Std. Error	*t*-value	Pr(T=|t|)
(Intercept)	0.0478	0.03433	0.1177	0.4058	0.6859
I_bTAXES	0.0759	0.06707	0.0098	7.7251	0.0000***

Multiple R-Squared: 0.4097

0 ' *** ' 0.001 ' ** ' 0.01 ' * ' 0.05 ' · ' 0.1 ' ' 1

The analysis of the results of model [1] in Panel A reveals that the impact on equity is significant with a multiple-R^2 of 0.9738. The $E_{SpanishGAAP}$ explains this impact. The *t*-value of 56.5663 (Pr(T≥|t|): 0.0000) indicates that this variable is statistically significant at the 0.1% level for the full sample estimation. The noteworthy difference in the coefficient values (regression model (robust regression model) [1]: 0.7695 and 0.9809, respectively) is solely associated with the presence of outliers in some industries. Based on these findings, the estimations of the different industries considered are presented individually. Our analysis reveals that $Industry_7$ (Consumer services), $Industry_5$ (Oil and Gas) and $Industry_3$ (Basic materials, Manufacturing and Construction) have the biggest impacts on equity, -20.74%, -16.64% and -15.23%, respectively. Based on a significance level of 0.05, stepwise regression [3] selects the variable *NC_ASSETS* as the main one positively associated with the impact on equity. The results of the regression do not support *C_ASSETS*, *NC_LIABILITIES*, *C_LIABILITIES* and *M_INTERESTS* effects. So, the variation in equity is associated with the main adjustments that companies introduce to recognize their start-up costs, PP&E and intangible assets (including goodwill), investment properties, long-term investments and non-current assets held for sale.

In model [3] (Panel B), we investigate the role of $NI_{SpanishGAAP}$ in explaining the impact of IFRS on net income. The multiple-R^2 is 0.9932. The coefficient of the explanatory variable is significant at the 0.1% level and, in contrast to model [1], indicates an increase on net income of 4.6%. Industry analysis reveals that $Industry_2$ (Consumer goods), $Industry_3$ (Basic materials, Manufacturing and Construction) and $Industry_7$ (Consumer services) present the most important impacts on net income, 20.4%, -10.86% and -10.7%, respectively. The results of the stepwise regression [4] do not support *NET_SALES, I_G.OpINCOME, I_NOpINCOME, I_ContOPERATIONS* and *TAXES* effects in explaining the variation of net income. The best model includes the variable *I_bTAXES* as positively significant at the 0.001 level. Thus, main adjustments are associated with income from intangible assets, PP&E and long-term investments (including change in provisions), treasury stocks and corporate bonds activities, other extraordinary income and net income from discontinued operations.

4.2 Corporate Characteristics that Influence Accounting Criteria Election

4.2.1 DESCRIPTIVE STATISTICS

Panel A in Table 5 reports the estimated frequencies for each IAS/IFRS codified depending on multiple accounting methods that we describe in Table 3. For the entire sample, the analysis of the frequencies reveals that companies apply more conservative criteria to limit the number of changes they introduce related to the Spanish GAAP, such as:

- IAS 16/IAS 38: subsequent to initial recognition of PP&E and intangible assets, companies apply the cost model (95% and 98%, respectively) versus the revaluation model;

- IAS 1/IAS 7/IAS 14: companies achieve uniform application of accounting policies they consider to prepare the structure and content of financial statements:

  - IAS 1_a, statement of changes in equity: companies present all changes in equity (89%) versus changes in equity other than those arising from transactions with equity holders acting in their capacity as equity holders;

  - IAS 1_b, balance sheet: 100% of the groups present a classified balance sheet differentiating current and non-current assets and liabilities (vs. based on liquidity);

▫ IAS 1_c, analysis of expenses: 100% of the companies categorize expenses included on the income statement by nature (vs. by function);

▫ IAS 7, cash flows from operating activities: companies use the indirect method (89%) versus the direct method;

▫ IAS 14, segment reporting format: 61 companies (69%) report financial information about their operating segments by line of business and 11 (12%) do it by geographical area.

The findings associated with IAS 2, IAS 17 and IAS 20 are mixed. With respect to IAS 2, inventories, 65% of the companies use the weighted average cost formula, 8% FIFO and 13% multiple criteria simultaneously [i.e. companies in $Industry_3$ (Basic materials, Manufacturing and Construction) and $Industry_8$ (Real Estate)]. Among the companies that disclose information about assets subject to leases (62/88), 54 recognize the lease payments on a straight-line basis versus 7 that use a systematic basis; (1 company uses multiple criteria simultaneously). For companies that make reference to government grants related to income (55%), 45 present the grant as an income and 3 deducted from the related expenses. In the case of government grants related to assets (70%), 54 present the grant as a deferred income and 8 deducted from the asset.

Examples of disclosures omitted more frequently by companies include:

▪ IAS 19, recognition of actuarial gains and losses (Nd/Na: 74/88);

▪ IAS 23, recognition of borrowing costs (Nd/Na: 47/88);

▪ IAS 31, interest in joint ventures (Nd/Na: 43/88);

▪ IAS 39_a, recognition of purchases or sales of financial assets (Nd/Na: 59/88);

▪ IAS 39_b, recognition of financial guarantee contracts (Nd/Na: 80/88);

▪ IFRS 1, first-time adoption of IFRS (exceptions and exemptions).

Table 5. Descriptive Statistics for Optional Accounting Criteria under IAS/IFRS

Panel A: Summary of Frequencies

IAS/IFRS	ect of Standard	*Optional Accounting Methods under IAS/IFRS* 1	2	3	4	5
IAS 1_a	Accounting policies (changes in equity)	78	10			
IAS 1_b	Accounting policies (balance sheet)	88	--			
IAS 1_c	Accounting policies (expenses)	88	--			
IAS 2	Inventories	57	7	6	11	7
IAS 7	Cash-flow statement	10	78			
IAS 14	Segment reporting	61	11	9	7	
IAS 16	Property, plant and equipment	84	2	--	2	
IAS 17	Leases	54	7	26	1	
IAS 19	Employee benefits	5	5	4	74	
IAS 20_a	Government grants (related to income)	45	3	1	39	
IAS 20_b	Government grants (related to assets)	54	8	2	24	
IAS 23	Borrowing costs	6	30	47	5	
IAS 31	Interests in joint ventures	37	4	2	43	2
IAS 38	Intangible assets	86	--	2		
IAS 39_a	Financial instruments (financial assets)	29	--	--	59	
IAS 39_b	Financial instruments (guarantees)	5	1	2	80	
IAS 40	Investment properties	33	2	53		
IFRS 1_a	First-time adoption of IFRS (IFRS 3)	61	1	1	25	
IFRS 1_b	First-time adoption of IFRS (IAS 21)	--	--	88		
IFRS 1_c	First-time adoption of IFRS (IAS 16)	21	43	24		
IFRS 1_d	First-time adoption of IFRS (IAS 40)	7	11	70		
IFRS 1_e	First-time adoption of IFRS (IAS 38)	1	16	71		
IFRS 1_f	First-time adoption of IFRS (IAS 19)	8	4	2	74	
IFRS 1_g	First-time adoption of IFRS (IAS 21)	44	9	2	33	
IFRS 1_h	First-time adoption of IFRS (IAS 32)	2	--	7	79	
IFRS 1_i	First-time adoption of IFRS (IFRS 3)	--	--	3	85	
IFRS 1_j	First-time adoption of IFRS (IAS 39)	5	--	--	83	
IFRS 1_k	First-time adoption of IFRS (IFRS 2)	8	5	5	70	
IFRS 1_l	First-time adoption of IFRS (IFRS 2)	4	5	5	74	
IFRS 1_m	First-time adoption of IFRS (IFRS 4)	1	--	5	82	
IFRS 1_n	First-time adoption of IFRS (IAS 39)	--	4	--	84	
IFRS 1_o	First-time adoption of IFRS (IAS 32, IAS 39 and IFRS 4)	26	34	--	28	

Panel B: Results Partitioned by Industries

IAS/IFRS	Subject of Standard	Fisher's Exact Test (p-value)
IAS 1_a	Accounting policies (changes in equity)	0.0009
IAS 1_b	Accounting policies (balance sheet)	
IAS 1_c	Accounting policies (expenses)	
IAS 2	Inventories	0.0002
IAS 7	Cash-flow statement	0.0006
IAS 14	Segment reporting	0.0497
IAS 16	Property, plant and equipment	0.8993
IAS 17	Leases	0.9460
IAS 19	Employee benefits	0.0177
IAS 20_a	Government grants (related to income)	0.1567
IAS 20_b	Government grants (related to assets)	0.0447
IAS 23	Borrowing costs	0.0001
IAS 31	Interests in joint ventures	0.0004

(continued on next page)

Table 5. Continued

Panel B: Results Partitioned by Industries

IAS/IFRS	Subject of Standard	Fisher's Exact Test (p-value)
IAS 38	Intangible assets	0.1439
IAS 39	Financial instruments (financial assets)	0.2979
IAS 39[a]	Financial instruments (guarantees)	0.4439
IAS 40[b]	Investment properties	0.0257
IFRS 1	First-time adoption of IFRS (IFRS 3)	0.6624
IFRS 1[a]	First-time adoption of IFRS (IAS 21)	0.0721
IFRS 1[b]	First-time adoption of IFRS (IAS 16)	0.7464
IFRS 1[c]	First-time adoption of IFRS (IAS 40)	0.0073
IFRS 1[d]	First-time adoption of IFRS (IAS 38)	0.0413
IFRS 1[e]	First-time adoption of IFRS (IAS 19)	0.0360
IFRS 1[f]	First-time adoption of IFRS (IAS 21)	0.7696
IFRS 1[g]	First-time adoption of IFRS (IAS 32)	0.1131
IFRS 1[h]	First-time adoption of IFRS (IFRS 3)	0.1354
IFRS 1[i]	First-time adoption of IFRS (IAS 39)	0.0445
IFRS 1[j]	First-time adoption of IFRS (IFRS 2)	0.4310
IFRS 1[k]	First-time adoption of IFRS (IFRS 2)	0.7846
IFRS 1[l]	First-time adoption of IFRS (IFRS 4)	0.8579
IFRS 1[m]	First-time adoption of IFRS (IAS 39)	0.4736
IFRS 1[n]	First-time adoption of IFRS (IAS 32, IAS 39 and IFRS 4)	
IFRS 1[o]		

In contrast to prior literature, the analysis of previous results partitioned by industries reveals that exist a significant association between industry and accounting policies that companies choose and level of disclosure (see Panel B in Table 5). Based on a significance level of 0.05, Fisher's exact test findings indicate the industry is associated with criteria related to IAS 1_a, IAS 2, IAS 7, IAS 14, IAS 19, IAS 20_b, IAS 23, IAS 31 and IAS 40, and exceptions and exemptions included in IFRS 1_e, IFRS 1_f, IFRS 1_g and IFRS 1_k. This is consistent with the argument in Wallace *et al.* (1994) that companies in the same industry have incentives to follow the same reporting strategy (especially, presentation and recognition practices, in our case). Specifically, companies in $Industry_3$ (Basic materials, Manufacturing and Construction) and $Industry_5$ (Oil and Gas) provide more details than do companies in other industries.

4.2.2 FULL SAMPLE LOGIT RESULTS

Table 6 reports the results of estimating equation [5]. In response to research question number 2 posed in the introduction, this equation is used to determine the characteristics of the firms that influence the probability to adopt criteria j. For each IAS/IFRS codified depending on multiple accounting criteria described in Table 3, we report final stepwise models, which are based on minimum value of AIC, and individual coefficients on all explanatory variables that are statistically significant. These results indicate that the best models with IAS_i serving as the dependent variable include *SALES*, *AUDITOR_OP*, *Op_INCOME* and *LEVERAGE* as the most frequently significant variables. Each of them is associated with:

- *SALES*: IAS 1_a, IAS 2, IAS 7, IAS 14, IAS 31, IAS 39_a, IAS 39_b and IAS 40;

- *Op_INCOME*: IAS 1_a, IAS 7, IAS 23, IAS 31 and IAS 39_a; (with the exception of IAS 23, this variable remaining significant into the same models that appears variable *SALES*).

SALES and *Op_INCOME*, used as a measurement of firm size, are more associated with optional methods affecting the presentation of financial statements and recognition of specific transactions than methods affecting measurement basis. In contrast, *T_ASSETS* exhibits less frequency than *SALES* and *Op_INCOME* and, with the exception of IAS 31, is more associated with methods affecting the measurement basis (IAS 2, IAS 16 and IAS 40);

- *AUDITOR_OP*: IAS 2, IAS 16, IAS 20_a, IAS 20_b, IAS 31 and IAS 40;

AUDITOR_OP is more associated with optional accounting criteria affecting the measurement basis and recognition than criteria affecting the presentation of financial statements.

- *LEVERAGE*: IAS 1_a, IAS 16, IAS 20_a, IAS 20_b and IAS 40;

Both presentation and measurement practices are associated with the capital structure of the firm. However, we do not find any relationship between *LEVERAGE* and recognition practices.

Our findings also revel that variables *BIG4* and *ROE* are not frequently associated with optional accounting methods included in IAS. Thus, the hypotheses $H_0 2$ for these two variables can be rejected.

As illustrated in Table 6, all of the variables that are statistically significant in previous models remaining significant in models with IFRS 1_i serving as the dependent variable:

- *SALES*: IFRS 1_a, IFRS 1_c, IFRS 1_d, IFRS 1_e, IFRS 1_f, IFRS 1_n and IFRS 1_o;

SALES is associated with optional methods affecting the retrospective application of IFRS in selected areas (i.e. IFRS 3, business combinations, IAS 32 and IAS 39, financial instruments, and IFRS 4, insurance contracts), the use of fair value (i.e. items of PP&E, investment properties and intangible assets) and the recognition of actuarial gains/losses;

▪ *Op_INCOME*: IFRS 1_a, IFRS 1_c, IFRS 1_e and IFRS 1_g; [with the exception of IFRS 1_d (not associated with variable *OP_INCOME*) and IFRS 1_g, this variable remaining significant into the same models that appears variable *SALES];*

▪ *AUDITOR_OP*: IFRS 1_a, IFRS 1_f, IFRS 1_j, IFRS 1_k, IFRS 1_l and IFRS 1_o;

AUDITOR_OP is associated with optional accounting criteria affecting the retrospective application of IFRS (i.e. IFRS 3, IAS 32 and IAS 39, IFRS 4 and IFRS 2, share-based payments) and the recognition of actuarial gains/losses;

▪ *LEVERAGE*: IFRS 1_a, IFRS 1_e, IFRS 1_i and IFRS 1_k;

Capital structure of the firm is associated with optional methods affecting the retrospective application of IFRS (i.e. IFRS 3 and IFRS 2) and the use of fair value (i.e. items of intangible assets).

Interestingly, we find that there are higher levels of disclosure in the accounting policy notes when companies referring to the use of optional accounting methods included in IAS 1-40 than do when they referring to those exceptions and exemptions included in IFRS 1.

Table 6. Logit Regression Results

Prob($IAS/IFRS_i : j$) = $\beta_0 + \beta_1 T\_ASSETS + \beta_2 SALES + \beta_3 Op\_INCOME + \beta_4 LEVERAGE + \beta_5 ROE + \beta_6 BIG4 + \beta_7 AUDITOR\_OP + \varepsilon$

Variable NIC	**1_a**				**NIC 2**	**NIC 7**			**NIC 14**		**NIC 16**	
	2	*2*	*3*	*4*	*5*	*2*	*2*	*3*	*4*	*2*	*4*	
Intercept	-5.851e^{+00}	-0.996	-3.407	-1.257	12.134	2.198e^{+00}	-1.776	-2.390	-1.818	-471.429	6.306	
T_ASSETS		-0.744	4.999	1.484	0.863					-108.329	-0.988	
SALES	-1.128e^{-06}	-3.831e^{-07}	-5.155e^{-06}	-2.932e^{-07}	-1.169e^{-07}	2.462e^{-07}	2.847e^{-08}	1.139e^{-07}	-3.536e^{-07}			
Op_INCOME	6.821e^{-06}					-1.146e^{-06}						
LEVERAGE	7.536e^{+00}									92.720	6.595	
ROE												
BIG4	2.995e^{+00}											
AUDITOR_OP		-3.358	0.969	-0.490	-14.045					135.755	-13.666	
AIC	39.35				199.76	61.42			169.91		32.7	

Variable			**NIC 17~1**			**NIC 19**			**NIC 20_a**			**NIC 20_b**
	2	*3*	*4*	*2*	*3*	*4*	*2*	*3*	*4*	*2*	*3*	4
Intercept	-2.043	-0.731	-3.989	-9.533	-9.424	2.615	-2.315	-15.308	-0.546	-3.295	5.931	-2.050
T_ASSETS				10.449	10.117	0.188						
SALES												
Op_INCOME												
LEVERAGE							-6.948	-73.654	-0.896	-2.028e^{-03}	-1.008e^{+02}	7.776e^{-01}
ROE												
BIG4												
AUDITOR_OP							2.063	15.964	0.704	0.910	14.107	0.529
AIC			166.54			106.19			149.42			162.81

(continued on next page)

Table 6. Continued

Prob($IAS/IFRS_i : j$) = $\beta_0 + \beta_1 T\_ASSETS + \beta_2 SALES + \beta_3 Op\_INCOME + \beta_4 LEVERAGE + \beta_5 ROE + \beta_6 BIG4 + \beta_7 AUDITOR\_OP + \varepsilon$

Variable	NIC 23			NIC 31				NIC 38~1	NIC 39_a	NIC 39_b		
	2	*3*	*4*	*2*	*3*	*4*	*5*	*3*	*4*	*2*	*3*	*4*
Intercept	0.348	1.700	-1.024	32.403	2.535	-0.958	-13.621	-3.761	$7.261e^{-01}$	8.760	14.208	9.495
T_ASSETS				54.961	-27.380	-1.846	-2.854					
SALES				$4.322e^{-07}$	$-2.830e^{-04}$	$1.892e^{-07}$	$-7.557e^{-06}$		$2.271e^{-07}$	$-2.597e^{-06}$	$-7.067e^{-05}$	$-3.429e^{-08}$
Op_INCOME	$6.728e^{-06}$	$3.837e^{-06}$	$6.064e^{-06}$	$-5.670e^{-06}$	$4.311e^{-04}$	$-3.771e^{-06}$	$1.660e^{-05}$		$-1.070e^{-06}$			
LEVERAGE												
ROE				-39.587	-117.061	0.932	-3.739					
BIG4				-51.265	67.914	1.783	45.093			-21.698	-11.774	-6.650
AUDITOR_OP				-31.701	-62.930	0.643	-32.264					
AIC			169.37				152.11	21.09	111.85			65.8

Variable	NIC 40		NIIF 1_a			NIIF 1_c		NIIF 1_d		NIIF 1_e		
	2	*3*	*2*	*3*	*4*	*2*	3	*2*	3	*2*	*3*	
Intercept	-22.057	2.040	554.140	-475.351	-0.995	-0.054	-0.021	0.015	2.285	368.292	374.577	
T_ASSETS										-376.382	-378.764	
SALES	$-7.903e^{-06}$	$-8.891e^{-08}$	$-1.723e^{-04}$	$1.705e^{-04}$	$-1.453e^{-07}$	$-7.595e^{-07}$	$-8.346e^{-07}$	$9.131e^{-07}$	$9.518e^{-07}$	$-6.156e^{-06}$	$-5.349e^{-06}$	
Op_INCOME			$7.690e^{-05}$	$-1.923e^{-03}$	$-1.940e^{-06}$	$8.830e^{-06}$	$8.739e^{-06}$			0.000	0.000	
LEVERAGE	26.714	-1.388	414.169	-262.767	0.367					-24.008	-28.744	
ROE	23.257	-0.664				0.388	-2.825	-1.010	-4.270	81.880	78.634	
BIG4												
AUDITOR_OP	-3.308	-0.261	-842.595	200.026	0.316							
AIC		127.36			122.43		176.29		113.75		76.18	

(continued on next page)

Table 6. Continued

Prob($IAS/IFRS_i : j$) = $\beta_0 + \beta_1 T\_ASSETS + \beta_2 SALES + \beta_3 Op\_INCOME + \beta_4 LEVERAGE + \beta_5 ROE + \beta_6 BIG4 + \beta_7 AUDITOR\_OP + \varepsilon$

Variable			**NIIF 1_f**			**NIIF 1_g**		**NIIF 1_h ~1**	**NIIF 1_i**	**NIIF 1_j**
	2	*3*	*4*	*2*	*3*	*4*	*3*	*4*	*4*	*4*
Intercept	-1.810	-0.855	3.586	-0.919	-1.833	0.553	1.253	3.676	0.571	-13.423
T_ASSETS	4.889	-47.139	-0.085						-2.156	
SALES	$-4.829e^{-06}$	$1.032e^{-06}$	$-6.659e^{-08}$							
Op_INCOME				$-2.299e^{-06}$	$-1.002e^{-05}$	$-3.672e^{-06}$				
LEVERAGE									7.140	
ROE										
BIG4										
AUDITOR_OP	0.808	0.085	-0.666							15.924
AIC			108.35			170.74		71.62	28.83	39.41

Variable			**NIIF 1_k**			**NIIF 1_l**		**NIIF 1_m**	**NIIF 1_n**		**NIIF 1_o**
	2	*3*	*4*	*2*	*3*	*4*	*3*	*4*	*4*	2	*4*
Intercept	-3.775	-6.958	-4.394	7.816	-1.300	3.137	9.606	11.661	$3.552e^{+00}$	-8.509	4.444
T_ASSETS							-21.900	-7.899	$1.580e^{+02}$		
SALES									$-3.556e^{-06}$	$2.355e^{-08}$	$-1.966e^{-07}$
Op_INCOME											
LEVERAGE	10.103	-3.969	-0.542								
ROE											
BIG4										8.416	-1.597
AUDITOR_OP	-3.854	7.646	6.578	-7.252	0.830	-0.151				-1.776	-1.715
AIC			125.81			112.93		48.7	27.77		162.81

Note: In logistic or multinomial regression it is defined the logarithm of odds (ratio) between the response category(ies) and the reference category (*category 1*). Then, this term is related by means of a linear regression respective to the rest of quantitative variables. The corresponding weights with significant positive (negative) coefficients increase (decrease) the likelihood of the response category(ies) with respect to the reference category.

5 Summary and Conclusions

For Spanish listed groups that integrate the Spanish Continuous Market and adopt the IFRS at 1 January 2005, this research examines their financial statements and footnotes to determine: (1) the statistical significance of the impact of the IFRS on firms´ equity and net income, and (2) the influence of corporate characteristics in explaining the election of the optional accounting criteria provided by the IFRS (i.e. presentation, recognition and valuation options) to prepare their financial statements. Based on prior research that addresses the influence of corporate characteristics on financial reporting, it is argued in this study that optional accounting methods provided by the IFRS (including different exceptions and exemptions under IFRS 1, *First-time adoption of the IFRS*) may be used by companies to influence positively their results. Most of what we know about the economic consequences of financial reporting and disclosure regulation from previous studies is based on firms' IFRS voluntary adoption. The EC requirement that all listed EU companies report in accordance with endorsed IFRS for financial years starting on or after 1 January 2005 is so recent and, at present, there is little evidence on the mandatory adoption of the IFRS. However, we find an opportunity to analyze the impact of the mandated adoption of IFRS on the Spanish listed groups' financial statements and, more specifically, examine the interactions between financial reporting choices and corporate characteristics of these groups. As we noted earlier, the effective adoption of IFRS across different jurisdictions and progress in addressing main issues included in the international standards setters' agendas depend on many interested parties involved. Research into these matters could help us better understand the evolution of the international process of convergence across countries.

Our initial analysis reveals that the impact of the first-time adoption of the IFRS on Spanish listed groups' financial statement is significant. For the whole sample, the results reflect a decrease on equity of 1.91% and an increase on net income of 4.6%. These findings are consistent with the results on this topic in Jermakowicz (2004) and Callao *et al.* (2007). Differences between industries are also significant; specifically firms in Consumer services, Consumer goods, Oil and Gas, and Basic material, Manufacturing and Construction industries present the most important impacts. In addition, we find that main adjustments that companies introduce and are also important in explaining the variations in equity and net income are positively associated with non-current assets and items determining income before taxes respectively. The adjustments that companies introduce are linked to the optional accounting methods provided by the IFRS. Overall, the results suggest that Spanish listed groups apply more conservative criteria to limit the number of changes they introduce related to the Spanish GAAP. More specifically, companies: (1) achieve uniform application of accounting policies considered to prepare the structure and content of financial statements, and (2) subsequent to initial recognition of property plant and equipment and intangibles assets, apply the cost model versus the revaluation model. The local tax enforcement system's effects could be indirectly associated with these findings. Interestingly, examples of disclosures omitted more frequently by companies include accounting criteria under IAS 19, IAS 23, IAS 31, IAS 39 and IFRS 1. Our final analysis indicates that firm-specific factors, such as industry, size, auditor's opinion and capital structure, play an important role in explaining the probability to adopt the optional accounting criteria provided by IFRS. The heterogeneity of the findings across firms is consistent with our view that financial reporting characteristics are shaped by companies' incentives, which are conditioned by managerial decisions.

Our suggestions for future studies focus on the different impacts of the regulation in other capital markets. Insights into the process through which financial reporting is developed and implemented and its economic consequences around the world, offers interesting settings. Towards this end, we find an opportunity to evaluate changes in disclosure quality across countries that have recently

adopted IFRS and their direct capital-market effects. Interestingly, there is no evidence about how local institutional infrastructures affect the final outcomes.

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